

REMARKS

Claims 1-13, 15, 17, 19 and 20 remain pending in this application

The Examiner objected to the drawings in the Final Office Action dated January 9, 2004. Specifically, the Examiner stated the reference numerals 16, 20, 22, 18, 24, 28, 30, 31, and 32 required labels as described in the specification. Figure 1 has been amended and the labels requested by the Examiner have been added. No new matter has been added as a result of the amendments to the drawings. Applicants have attached Figures 1-3 for the Examiner's approval. Therefore, the Applicants respectfully request the Examiner to withdraw his objections to the drawings.

The Examiner objected to the disclosure because on page 6, line 27, the numeral 14 of "a receiver 14" is not shown. Although this correction was made in the previous amendment mailed by Applicants on July 21, 2003 in response to the Office Action dated April 24, 2003, Applicants have attached Figures 1-3 for the Examiner's convenience.

With respect to claim 5, the Examiner states "[I]t suggests to add the legend of k cited in the claim as it appears in the claim first time." The Examiner's objection and the corrective action required by the Examiner are unclear. The Applicants respectfully request further clarification as to the precise nature of the Examiner's objection to the claim language and the correction requested by the Examiner. The Applicants submit that claim 5 is definite in view of the description in the specification. However, the Applicants are receptive to considering other alternative language that may be amenable to the Examiner.

The Examiner rejected claims 1-2, 6-7, 11, 13, 15, and 17, under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,621,857 (*Belotserkovsky*) in view of U.S. Patent No. 5,548,613 (*Kaku*). Applicants respectfully traverse this rejection. *Belotserkovsky* is directed to a carrier tracking loop for direct sequence spread systems (DSSS). In particular, *Belotserkovsky* describes a DSSS modulator that is employed in Time Division Multiple Access (TDMA) systems. *Belotserkovsky*, col. 3, line 56-col. 4, line 6; (see also Figures 1-5). *Kaku*, on the other hand, is directed to a Code Division Multiple Access receiver using moving-averaged pilot signals for weighting and phase rotation of orthogonal data symbol vectors.

The Examiner appears to use the pending claims as a template to combine the prior art references to make a rejection under 35 U.S.C. §103. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. That is, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. In the instant case, the Examiner makes an unsubstantiated statement in an effort to make a 35 U.S.C. §103 rejection. The Examiner fails to point to any requisite teachings or motivations in the prior art

references to show the desired modifications. In fact, the Examiner's basis for combining the two references fails to even begin to explain how teachings of the TDMA receiver, such as that disclosed in *Belotserkovsky*, can be combined with the teachings of the CDMA receiver disclosed in *Kaku*.

Second, there must be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. A recent Federal Circuit case emphasizes that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35. In the instant case, the Examiner makes only conclusory statements in an attempt to establish a case of obviousness. Thus, the Examiner has failed to show that the references can be properly combined.

Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). In the instant case, the Examiner fails to meet the first criteria because one or more of the claimed features are missing from the cited references, when considered alone or in combination. Claim 6, for example, calls for a system that includes, among other things, a downconverter for downconverting the digital signal to a second signal having a second data rate, wherein the second data rate is lower than the first data rate. With regard to this claimed feature, the

Examiner argues that *Belotserkovsky* teaches a derotator 403 (see Figures 4 and 5) that supposedly performs the downconverting act. The Applicants disagree. First, the derotator is not a downconverter, as explained in *Belotserkovsky*. *Belotserkovsky* explains that the derotator 403 multiplies the rotating near-basedband signal by a rotation of opposite phase so that the resulting signal is without rotation. See *Belotserkovsky*, col. 5:65-6:2. Thus, as its name implies, a “derotator” multiplies the input signal by a rotation of opposite phase so that the resulting signal is without rotation. A derotator does not downconvert. Furthermore, *Belotserkovsky* shows that the derotator 403 does not downconvert the incoming signal (e.g., first signal) such that the output signal (e.g., the second signal) has a lower data rate than the incoming signal.

The Examiner argues that Figure 7 supposedly shows the difference in the data rates. The Applicants disagree, and first direct the Examiner’s attention to Figure 5 of *Belotserkovsky*, which shows that input signal to the derotator 403 and the output signal of the derotator 403 are at the same rate, namely the “chip rate” (see bottom of Figure 5). Based on how the Examiner is applying *Belotserkovsky* to claim 6, the signal input to the derotator 403 would correspond to the “first signal” of claim 6, and the signal output of the derotator 403 would correspond to the “second signal” of claim 6. Figure 7 does not show that the second data rate is lower than the first data rate, as the Examiner alleges. The Applicants direct the Examiner’s attention to col. 8, lines 11-18 of *Belotserkovsky*, which states that Figure 7 shows the timing relationship between block 402 (not derotator 403), correlator 404, estimator 411, and various other outputs. Note that Figure 7 does not illustrate the timing diagram of derotator 403, as the Examiner alleges. This is presumably because there is no difference in data rates between output signal of block 402 (which is also the input signal to the derotator 403) and the output signal of the derotator 403, as

evidenced by Figure 5 of *Belotserkovsky*. Accordingly, the derotator 403 does not downsample the incoming signal (e.g., the “first signal”) so that the output signal (e.g., the “second signal”) of the derotator 403 has a lower rate.

Claim 6 also calls for a combiner for combining said frequency correction with the second signal to correct the frequency offset. Under the Examiner’s application of *Belotserkovsky*, the “second signal” of claim 6 corresponds to the output signal of the derotator 403 of Figure 5. See page 4 of the Office Action. *Belotserkovsky*, however, does not show combining the frequency correction with the second signal (e.g., the output signal of the derotator 403) to correct the frequency offset. Instead, as shown in Figure 5 of *Belotserkovsky*, the output signal of carrier loop 430 is provided to the derotator 403, which then multiplies the output signal of the carrier loop 430 with the input signal from block 402 so that the resulting signal is without rotation. Thus, *Belotserkovsky* does not teach combining said frequency correction with the second signal to correct the frequency offset.

Accordingly, at least the above-noted claimed features are not taught by *Belotserkovsky*. Moreover, *Kaku* also fails to teach these claimed features. Accordingly, claim 6 and the claims depending therefrom are also allowable. Additionally, the other pending claims are also allowable for one or more of the reasons set forth above.

Thus, in light of the arguments presented above, Applicants respectfully assert that claims 1, 1-13, 15, 17, 19 and 20 are allowable. Accordingly, a Notice of Allowance is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Houston, Texas telephone number (713) 934-4064 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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